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SOIL CONSERVATION LITERATURE
SELECTED REFERENCES

V.2

January/February, 1938

No.1



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"If a man farms his land to the waste of
the soil or the trees, he destroys not only his
own assets but the nation's assets."

Franklin D. Roosevelt

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TO OUR READERS

With this issue, "Soil Conservation Literature" enters its second year. As the mailing list has more than doubled through individual requests, it is assumed that the publication is accomplishing its original purpose, namely, to provide a useful tool by which those interested may find in readily accessible form, references to data and knowledge on soil conservation and related subjects selected from currently published material.

An index to volume 1 is now in the editing stage and it is expected that distribution will be made within a short time. Unfortunately, all those now on the mailing list have not received every issue of volume 1 due to the fact that the supply of early numbers is exhausted. It will, therefore, be appreciated if individuals who have a complete file of volume 1 and wish the index will signify their desire by writing to the Library, Soil Conservation Service, Washington, D. C. Libraries and Soil Conservation Service regional offices will automatically receive copies.

Mildred Benton

Mildred Benton
Librarian

PERIODICAL ARTICLESBlack Locust

Hirt, R.R. A progress report on laboratory tests of the relative durability of different varieties of black locust subjected to certain wood decay fungi. Jour. Forestry 36(1):53-55. January 1938.

"Evidence is submitted that the heartwood of shipmast locust, a variety of Robina pseudoacacia, is more resistant to decay by certain fungi in laboratory tests than the heartwood of the common black locust."

Check Dams

Russell, W.W. and Kahler, L.F. Buckbrush check dams.

Soil Conserv. 3(6):155-156, illus. December 1937.

Describes construction of buckbrush (Symphoricarpos vulgaris) checks with wire backing and without.

Advantages of these "living dams" developed by the Dubois Creek, Missouri project staff members are listed as follows: (1) they can be used in gullies surrounded by cultivated land; (2) they seem capable of stabilizing gullies in tree planting areas until the trees are large enough to take care of the erosion, at which time the buckbrush will be shaded out; and (3) the use of buckbrush constitutes an erosion-control measure, which, because of its simplicity and economy, the farmers can put into effect on their own farms.

Ecology. Kansas

Albertson, F.W. Ecology of mixed prairie in west central Kansas.

Ecological Monog. 7(4):483-547, illus. October 1937.

"Literature cited," pp. 546-547.

Points discussed include geology of the area, soils, plant-life conditions, vegetational distribution, soil profiles, runoff, percolation, precipitation and moisture, evaporation, and water loss from phytometers.

Fertilizers

Fraps, G.S., Fudge, J.F. and Reynolds, F.B. Effect of fertilization

on the composition of a Lufkin fine sandy loam and of oats

grown on it. Jour. Amer. Soc. Agron. 29(12):990-996, tables.

December 1937.

Literature cited, p. 996.

Summary: "A study was made of the effect of fertilizers added during a period of eight years in varying quantities up to a maximum of 800 pounds of an 8-12-8 fertilizer per acre, on the quantities of nitrogen, active phosphoric acid, active potash, and acidity in Lufkin fine sandy loam soil, and of the relation of these to the composition of oats grown on the soil at College Station, Texas.

"Of the total amount of nitrogen added, 50 to 70 per cent was found in the surface 6 inches of soil; only a small amount had penetrated into the subsoil. From 36 to 48 per cent of the phosphoric acid added was found as active phosphoric acid in the surface 6 inches of soil. The phosphoric acid penetrated to a considerable depth as shown by the fact that the subsoil of the plats that received phosphoric acid contained about $2 \frac{1}{2}$ times as much active phosphoric acid as the plats which received no phosphoric acid. Practically all of the increases in active potash were caused by increases in exchangeable potash. Potash also penetrated the subsoil, but to a lesser extent than phosphoric acid.

Fertilizers (Cont'd)

Fraps, G.S.... Effect of fertilization...

"Additions of phosphoric acid and potash had little, if any, effect on soil acidity, but nitrogen added as sulfate of ammonia increased acidity; manure decreased it..."

Holford, G.H. Fertilizing pastures in New Zealand. Hoard's Dairyman 82(23):647, 663. Dec. 10, 1937.

Address given at the National Fertilizer Association convention in West Virginia, 1937.

The speaker, believing that grass crops in the United States will make increasing use of fertilizer, makes suggestions based on experience in Australia and New Zealand.

Grassland Management

Drew, J.P. and Deasy, D. An investigation into the intensive system of grassland management. Irish Free State. Dept. Agr. Jour. 34(2):225-247. June 1937.

The investigation is outlined and an attempt is made to analyze the total results obtained and to see how far each of the following contributed (a) phosphatic and potassic manuring, (b) heavy nitrogenous manuring and (c) rotational grazing.

Highway Erosion Control

Farmer, H.D. and Lowellen, A.B. Channel changes on forest highways. U.S. Bur. Pub. Roads. Pub. Roads 18(9):169-175, 182, illus. November 1937.

In making changes in Washington, Oregon and Montana provision has been made for erosion prevention.

U.S. Bureau of public roads. District 2. Experimental erosion control on forest highway fills. U.S. Bur. Pub. Roads. Pub. Roads 18(9):176-182, illus. November 1937.

Work on forest highway fills in California gives some indication of the results to be expected. The purpose of the work has been to determine the most practical methods of preventing erosion and encouraging revegetation on newly constructed fill slopes under varying soil and climatic conditions. Types of treatment have been varied, from broadcasting grain and other seeds on the slopes or covering with forest duff, to more extensive methods using various types of revetments or wattling.

It is stated that results demonstrate the need for studying fill soils in order to determine their reaction to the particular erosive forces to which they are exposed.

Hydrologic Research

Horton, R.E. Hydrologic research. Sci. 86(2241): 527-530. Dec. 10, 1937.

The author contends that "the fact that hydrology has largely grown up in the families of sister sciences, and the tremendous pressure for hydrologic research created by recent activities in soil and water conservation, have created a situation which seems to call for some pertinent discussion of the objectives and methodology of hydrologic research. This is especially true in view of the fact that practical applications of hydrology are running away from the scientific development of the subject. There is consequent tendency to concentrate on specific objectives rather than to direct it toward the development of a complete, well-rounded body of scientific knowledge."

Infiltration

Stauffer, R.S. and Smith, R.S. Variation in soils with respect to the disposition of natural precipitation. Jour. Amer. Soc. Agron. 29(11): 917-923, November 1937.

"Literature cited," p. 923.

Describes methods used and summarizes results of a project set up at the Illinois Agricultural Experiment Station in which erosion type lysimeters were used to study the infiltration capacity of soils.

Interception

Clark, O.R. Interception of rainfall by herbaceous vegetation. Science 86(2243): 591-592. Dec. 24, 1937.

Describes two methods devised for measuring interception in field studies with prairie vegetation, crop plants and weeds at the University of Nebraska.

Gives interception percentages for wheat, needle grass, prairie dropseed, little bluestem, big bluestem, bindweed and buffalo grass.

It is indicated that the amount of water intercepted by herbaceous plants is often surprisingly large and in all the experiments it was found that wind, through its influence upon evaporation, had a marked effect upon the percentage of interception.

Irrigation

Bingham, G.H. The border method. Mont. Farmer 25(7):8, illus. Dec. 1, 1937.

Variety of uses and preparation for the border method of irrigation which method consists essentially in the division of the field to be irrigated into a series of long, narrow strips of lands by low, flat dikes extending in the direction of the steepest slope. Sufficient water is then turned into the upper end of each strip and this water moves down the slope in a thin sheet, moistening the soil as it advances toward the lower end.

Lewis, M.R. Water conservation and supplementary irrigation in the northern Great Plains. Agr. Engin. 18(11):495-496. November 1937.

Presented before the Soil and Water Conservation Division at the annual meeting of the American Society of Agricultural Engineers at Urbana, Illinois, June 24, 1937.

Lyon, A.V. Maintaining the productivity of irrigated lands. Jour. Aust. Inst. Agr. Sci. 3(2):79-83. June 1937.

"General experience has frequently shown soil wastage to be associated with irrigation. This phase of soil preservation is discussed."

Legislation

Glick, P.M. State legislation for erosion control. Soil Conserv. 3(5):120-125, illus. November 1937.

Hockley, H.A. Outstanding legislation affecting land and water utilization enacted during 1937. U.S. Bur. Agr. Econ. Land Policy Circ., December 1937, pages 12-21.

Pfankuchon, Llewellyn. Outstanding federal legislation affecting land and water utilization in the first session of the 75th congress. U.S. Farm Security Admin. Land Util. Section. Land Policy Circ., November 1937, pp. 8-14.

Land Utilization

Hill, E.B. and Taylor, H.B. Land use and soil conservation practices in Mecosta county. Mich. Agr. Exp. Sta. Quart. Bull. 19(4):207-212. May 1937.

Results of a survey of 78 dairy farms to obtain information relative to receipts and expenses of the farms, crop and live-stock organization and practices, labor, farm investments and soil conservation needs and practices.

"It is desirable to point out that a considerable portion of the land of these farms was not subject to sheet erosion to any appreciable degree."

Land Utilization (Cont'd)

Storie, R.E. The place of soil studies in land classification and land use. Agr. Engin. 18(11):493-494, illus. November 1937.

Cites importance and types of field mapping of soils in connection with soil classification and value in land-use studies.

Erosion survey maps of the Soil Conservation Service are described.

Wallace, H.A. The new land-use program. U.S. Dept. Agr. Agr. Situation 21(11):12-13. Nov. 1, 1937.

"Title III of the Bankhead-Jones Farm Tenant Act directs the Secretary of Agriculture specifically 'to develop a program of land conservation and land utilization, including the retirement of lands which are submarginal or not primarily suitable for cultivation'.

"This legislation marks an historic step in the conservation movement... Besides meeting the requirements of title III of the act, the purchase of submarginal farm lands will be planned to help other programs for soil conservation and flood control."

Legumes

Ferris, E.B. Crotalaria is good for southern soils. Potter Crops With Plant Food 21(11):20-22, illus. November 1937.

Reports favorable tests of the advantages of the recently introduced summer legume which is stated to have unusual possibilities for soil building.

Webster, C.B. Possibilities of Crotalaria spectabilis. U.S. Soil Conserv. Serv. Soil Conserv. News (Region 4) November 1937, pages 1-2.

"Crotalaria is a legume and, therefore, valuable as a soil builder."

Describes demonstration of possibilities for a green manure crop, wildlife food, and seed production.

Mapping

Progress report of committee on control for photomapping.

Beltsville, Maryland test project for horizontal control of photographic mapping by different methods in gently rolling terrain. Photogrammetric Engin. 3(3):54-57. Jly/Aug/Sept. 1937.

C.H. Birdseye, chairman.

Describes photomapping test on Soil Conservation Service project at Beltsville, Md.

Plant Material Decomposition

Lockett, J.L. Microbiological aspects of decomposition of clover and rye plants at different growth stages. Soil Sci. 44(6):425-439. December 1937.

References, pp. 438-439.

"Information on the decomposition of plant materials at different stages of maturity is important from the point of view of applying green manure to soils in agricultural practice...The present investigation[undertaken at the New Jersey Agricultural Experiment Station]is concerned with the difference in the chemical composition of certain plants at different stages of maturity, the decomposition of these plants in soils of various moisture contents, and the influence of the plants upon the soil microflora."

Run-off

Cochrane, V.H. Flood runoff from small areas. Engin. News-Rec. 119(22):864-867. Nov. 25, 1937.

Presents new formulas which attempt to eliminate inaccuracies which result when most formulas are applied to small areas of drainage.

Foot, S.D. River control and flood prevention. Canad. Engin. 73(23):7-13, illus. Dec. 7, 1937; 73(25):9-13. Dec. 21, 1937.

Thesis submitted for the B.A.Sc. degree, University of Toronto.

Discusses the calculation of run-off from watersheds by the unit graph method and various methods of flood control.

Keiller, P.A. Losses of sulphate of ammonia during rain. Trop. Agr. [Ceylon] 89(3):127-134, illus. September 1937.

Describes run-off experiments conducted in Ceylon to demonstrate the truth or fallacy of the prevalent idea that soluble fertilizers are very liable to loss should rain follow soon after their application.

"The loss, if there is any, caused by rainfall may be due to the sulphate of ammonia being washed right through the soil until it reaches the underground water level and is carried completely away, or it may be because it is carried off the surface of the soil by the water which runs off and does not penetrate. This article deals only with the second possibility."

Soil Erosion. Foreign Countries

Ackerman, E.A. The wine valley of North Portugal. Jour. Geogr. 36(9):333-353, illus. December 1937.

Illustrations show the elaborate terracing system in the grape community of Portugal.

It is said that "slope, through its two functions, exposure and drainage, is intimately associated with climate in its

Soil Erosion. Foreign Countries. (Cont'd)

Ackerman, E.A. (Cont'd)

effect upon the quality of the Port grape...The slopes are generally steep, so every hillside is terraced - the width of the terrace and the height of its wall varying according to the pitch of the slope. These terraces are obviously necessary constructions which serve three purposes: first, they keep the bit of flaky soil cover from creeping downhill; second, they catch and make effective use of the precipitation that falls; and third, they keep the water table at a constant depth."

Albisetti, C. Les reboisements et travaux de défense destinés à régulariser le régime des eaux dans le Val Colla (basin supérieur du Cassarate) Jour. For Suisse 88(2):37-41. February 1937.

Reforestation and defence works for controlling erosion and stream flow in the Val Colla.

Bownaker, E.W. Contour drains conserve moisture as well as prevent soil erosion. Observations at Bathurst experiment farm. Agr. Gaz. N.S. Wales 48(10):561-563, 590, illus. Oct. 1, 1937.

"Though the construction of contour drains is carried out primarily to prevent soil erosion on cultivated and certain pasture lands, there are other benefits which result from this practice, perhaps the most important of these being increased soil moisture content of the treated areas, following the prevention of the run-off of surface water immediately after rain, and greater percolation.

"The following observations, made in 1936...give details of the extent to which these drains not only prevented surface washing with resultant gully formation, but increased soil moisture content and enabled increased crop yields on comparable areas."

Christianson-Weniger, F. The importance of soil erosion for the intensification of field husbandry in Turkey. Herbage Rev. 5(4):175-186, illus. December 1937.

"References," p. 186.

A review of climatic conditions and the structure of Turkey show that there are many different aspects of the erosion question. There is mechanical, chemical and wind erosion. Due to lack of uniformity in land utilization, the soil erosion problem is different in each district, so each is discussed separately.

Soil Erosion. Foreign Countries (Cont'd)

Henry, Max. Soil erosion and animal health are closely associated. Agr. Gaz. N.S. Wales 48(7):361-362, 366. Jly. 1, 1937.

"The history of the pastoral industry in the western division of New South Wales is the history of progressive erosion and progressive deforestation. Clear the timber and for the first few years stock flourish. They are grazing over land enriched by centuries of leaf mould. Erosion removes this rich top soil and immediately the productivity of the area commences to decrease, as indicated by the health and productivity of the livestock."

Sobolev, S.S. Erosion on the territory of the Ukrainian SSR. Pedology 3:321-343. 1937.

Bibliography, pp. 341-342.

In Russian with English summary.

There are three types of erosion in the Ukraine; river erosion; ravine erosion and denudation. Methods of mapping all three are described.

Stockdale, Frank. Soil erosion in the colonial empire.

Empire Jour. Expt. Agr. 5(20):281-297. October 1937.

Selected bibliography, p. 297.

A survey of the present position in regard to soil erosion in the colonial empire, a description of the measures which are being taken to check and control its effects and indications as to where further efforts are required.

The most serious losses are said to be taking place in East Africa, particularly in Kenya.

The following places are mentioned: Nigeria, Gold Coast, Sierra Leone, Gambia, Northern Rhodesia, Nyasaland, Tanganyika, Uganda, Somaliland, Ceylon, Malaya, Seychelles, Malta and Palestine.

Vate, Jan. van der. Semi-official land utilization and soil conservation agencies in the Netherlands. U.S. Farm Security Admin. Land Util. Div. Land Policy Circ., pp. 20-24. November 1937.

Reclamation in the Netherlands involves, dike building, drainage and development of waste lands.

Soil Erosion and Control

Briggs, C.R. Straw farming. Soil Conserv. 3(6):169-170, illus. December 1937.

Cites example of a farm in the Palouse hills, near Walla Walla, Washington where straw farming, combined with rough tillage and cross-slope cultivation is now employed to prevent washing.

Soil Erosion and Control (Cont'd)

Collins, H.H., Jr. The hills of Texas move to the sea.
America's erosion problem becomes more serious with every
fall of rain - let's do something about it! Nature Mag.
31(1):17-19, illus. January 1938.

Finds erosion control beneficial. Wis. Agr. and Farmer 64(25):
18. Dec. 4, 1937.

A Monroe county, Wisconsin farmer has found that building
a better dairy program and conservation farming go together.

Hoover, J.W. Navajo land problems. Econ. Geog. 13(3):281-300,
illus. July 1937.

Among the points discussed are the land, economic adjust-
ments of the Navajo to their land; the erosion problem; causal
factors of accelerated erosion; rehabilitation of Navajo lands;
the Navajo erosion control project; utilization of vegetation
cover; rodent control; reduction of Navajo flocks; and recourse
to farming.

Hull, W.X. A special problem in soil conservation. Agr. Engin.
18(11):505-506. November 1937.

Presented before the Soil and Water Conservation Division
at the annual meeting of the American Society of Agricultural
Engineers, at Urbana, Illinois, June 24, 1937.

Erosion control on an Arizona ranch.

Murphy, H.F. The erosive character of the solonetz-like B
horizon. Okla. Acad. Sci. Proc. 16:80-82. Stillwater, 1936.
(See also p. 71.)

A terraced ridge made of the solonetz B horizon readily
flattens out even with a few rains and the purpose of the
terrace is defeated.

"In the light of this experience an experiment was con-
ducted [at the Oklahoma agricultural experiment station] in
which the B horizon of a given solonetz soil was mixed with
nearby normal soil in various proportions. Mounds were made
of the mixture and data were taken from time to time... Rain-
fall and erosion data are given in tables... The data indicate
that it is not advisable to build the terraces through these
solonetz-like areas with the material at hand but it is
necessary to bring in soil from off the area."

Soil Erosion and Control (Cont'd)

Saveson, I.L. and Overholt, Virgil. Stream bank protection.

Agr. Engin. 18(11):489-491, illus. November 1937.

Presented before the Soil and Water Conservation Division at the annual meeting of the American Society of Agricultural Engineers at Urbana, Illinois, June 22, 1937.

Report of field observations and model studies as a part of a cooperative investigation undertaken by the Ohio State University and the Soil Conservation Service of stream-channel behavior and control of small streams in order to formulate practical and effective means of stream-bank erosion control.

White, O.P. Devil in de cotton. Collier's 101(1):9-11, 42, illus. Jan. 1, 1938.

"It was a garden spot but it went to seed. That's the story of large sections of the cotton country in Georgia and Alabama. Erosion got the soil and erosion, mental and physical got the people. Now, after the second largest crop in history has been picked, Mr. White shows you conditions in the cabin and the cotton patch."

Soil Fertility

Smith, F.B., Brown, P.E. and Peavy, W.J. Effect of long continued treatment on the organic matter, nitrogen and phosphorus content of Clarion loam. 1. Continuous corn. Iowa State Col. Jour. Sci. 11(4):379-395. July 1937.

"Literature cited," pp. 394-395.

"The purpose of the work reported here was to study the losses of fertility under continuous cropping to corn with various soil treatments on plots at the Agronomy Farm of the Iowa Agricultural Experiment Station which have been under investigation since 1914."

Soil Moisture

Experts exchange crop opinions at weather seminar... moisture supplies deficient. Northwest Miller 192(4):26, illus. Nov. 10, 1937.

H.L. Collins, agricultural statistician of Topeka, told of the elaborate system in Kansas of reporting soil moisture.

A map shows in graphic form the results of the special soil moisture survey, of the Kansas Board of Agriculture and the U.S. Department of Agriculture as of October 10, 1937 in comparison with last year.

Soil Moisture (Cont'd)

Shaw, H.R. and Swezey, J.A. Scientific irrigation management. A review of investigations of plant and water relations; the Waialua irrigation investigations; the administration of plantation irrigation water. Hawaiian Sugar Planters Assoc. Exp. Sta. Bull. 52. pages 199-279, illus. Honolulu, July 1937.

Reprint from The Hawaiian Planters' Record v. 41, no. 3.

"Studies on the interrelation of soil moisture, weather, and crop production are the result of eight years of investigation...

"The reports cover briefly previous work in Europe, the mainland of the United States, and in Hawaii on soil moisture as related to plant growth and describe the steps leading toward the modern conception of plant and water relationships. They touch on fundamental investigations conducted since 1928 at the Makiki station, the Waipio substation and various plantations of this Association in determining certain basic denominators between the soils of Hawaiian cane lands and the growth and development of the sugar cane plant as affected by soil water."-Foreword.

Soil Studies

Coutts, J.R.H. A conductivity method for the estimation of soil water movement. So. Afr. Jour. Sci. 23:108-120. March 1937.

An account is given of method first under controlled laboratory conditions and later for soils exposed to rainfall.

The use of buried electrodes for rain percolation measurements is also described.

Myers, H.E. Physicochemical reactions between organic and inorganic soil colloids as related to aggregate formation. Soil Sci. 44(5):331-359, illus. November 1937.

"References," pp. 355-357.

Puri, A.H. Physical characteristics of soils: I. New methods of measurement. Sci. 44(6):481-487, illus. December 1937.

Three new apparatuses for measuring physical characteristics of soil are described. One gives the cohesion values; one, the Finell numbers; and one, the erosion times. Results with a few typical soils are given by way of illustration.

In connection with resistance to erosion, it is stated that "hitherto the problem has been studied chiefly in soil in situ, and the author is not aware of any previous attempts to measure this property in the laboratory on prepared soil blocks".

Visser, W.C. Pore space determination as a field method. Sci. 44(6):467-477, illus. December 1937.

References, pp. 476-477.

Describes an instrument which, according to the author, apparently meets the requirements of accuracy and usefulness in determining pore space in the field.

Soil Studies (Cont'd)

Visser, W.C. (Cont'd)

Gives two examples of the influence of soil structure on the growth of cereals which show the interesting features of structure analysis in agricultural problems and indicate the value of an instrument for rapid pore space determination in practical field work.

Waksman, S.A. and Madhok, H.R. Influence of light and heat upon the formation of nitrate in soil. Soil Sci. 44(5): 361-375. November 1937.

"References," pp. 374-375.

"The results lead to the only possible conclusion that the nitrate extracted from the soil by leaching with water, after the soil has been dried, is not produced as a result of drying but has been rendered more readily extractable as a result of the process of drying."

Stream Flow

Bernard, M.M. Modernizing headwater forecasting.

Engin. News-Rec. 119(25): 988-990, illus. Dec. 16, 1937.

Explains new and better method of estimating streamflow from rainfall now in operation on a cooperative basis in Pennsylvania, which takes into account the many factors influencing smaller streamflow and elaborates on methods of river forecasting which have successfully met the conditions of lower riverflow.

Farrow, R.C. Snow surveys for the purpose of forecasting streamflow. Forestry Chron. 13(1): 271-283, illus. February 1937.

System initiated in British Columbia as a step towards more economic use of water resources.

Youngquist, C.V. Ohio streamflow. Typical river flow records during 1937. Ohio State Univ. Eng. Exp. Sta. News 9(4): 14-16, illus. October 1937.

Terracing

Wilson, J.B. Terracing extension methods in Alabama. Agr. Engin. 18(12): 539-540. December 1937.

Presented before the Soil and Water Conservation Division at the annual meeting of the American Society of Agricultural Engineers at Urbana, Illinois, June 23, 1937.

Vegetation

Diller, O.D. The forage cover in heavily grazed farm woods of northern Indiana. Jour. Amer. Soc. Agron. 29(11):924-933. November 1937.

"Literature cited," p. 933.

"The purpose of the presented study has been to determine the general trend of succession of the vegetative cover in heavily grazed woodlands and its relation to the possibilities of such areas to regenerate naturally with desirable timber species."

Water Conservation

Fulghum, Ralph. Water disposal plan required. Soil Conserv. 3(6):148-150, 167, illus. December 1937.

Water disposal plans for the entire farm, now required as a part of all new cooperative agreements in SCS Region 2 camp and project areas, have "encouraged the use of vegetation in waterways, have greatly reduced the cost of the practice, and have given the farmer a better understanding of what he needs on his farm..."

"Appearing somewhat like a weather map but with the arrows representing terraces instead of pressure areas, the plan for each farm shows where the necessary terraces are to drain, where terrace outlet channels and meadow strips will be needed, wooded areas that should be allowed to thicken before water is turned on to them, gullies to be vegetated before taking water from terraces, necessary relocation of roads, required stream-bank erosion control, pastures to be contoured, and other measures important in a plan devised to provide eventually complete control of all run-off water on the farm."

McGrew, P.C. Mechanical methods of water conservation on pasture and range land. Agr. Engin. 18(11):487-488, 491, illus. November 1937.

Presented before the Soil and Water Conservation Division at the annual meeting of the American Society of Agricultural Engineers at Urbana, Illinois, June 24, 1937.

Describes some of the principal mechanical methods of water conservation used on pasture and range lands such as contour furrows, diversion dams, flood irrigation, water spreading, dams to raise the ground water table, and stock water dams.

Water...why pray for it? Why not save what we get? argues R.E. Dickson, superintendent of the Spur substation of the Texas agricultural experiment station. Acco Press 15(10):1-6, illus. October 1937.

Pictures and describes benefits of terracing on Texas experimental and private farms.

Water Conservation (Cont'd)

Water...why pray for it? Why not save what we get? (Cont'd)

The writer also mentions several things in particular pointed out to him by Mr. Dickson. He says, "He showed me a church that had employed proper terracing methods for its trees and shrubs and thereby had reduced considerably its 1936 water bill of the year before; we went to the top of the town and saw how water was being directed towards the base of the trees on the hillside above the city park; we drove down the highway towards Dickens and talked about the water traps that had been the cause of the rapid growth of the Chinese Elms planted by the highway department alongside the road."

Zink, N.E. Conservation in Utah, a semi-arid region.

Jour. Geogr. 36(9):357-368, illus. December 1937.

The author indicates that in the semi-arid regions of the Great Basin, the term conservation means saving and increasing the water supply. Plans which have been proposed are listed as follows: (1) better methods of irrigation; (2) diking Utah lake; (3) diking Great Salt lake; (4) diverting water from the Colorado river basin; (5) regulating use of underground water; (6) forecasting the water supply by snow surveys; (7) controlling small streams.

Restoration of western range lands, checking accelerated erosion, purchase of sub-marginal lands, selling conservation to the public and other types of conservation are also briefly discussed.

Watershed Management Symposium

Watershed management symposium. Jour. Forestry 35(11):991-1055, illus. November 1937.

Includes the following papers presented at the first summer meeting of the Society of American Foresters, Denver, Colo., June 21-23, 1937: The economic and social value of watershed management, by C.A. Lory, pp. 992-997; A new epicycle of erosion, by R.W. Bailey, pp. 997-1005; Precipitation and run-off in relation to altitude in the Rocky mountain region, by F.C. Hart, pp. 1005-1010; Natural vegetation as a factor in the losses and yields of water, by Joseph Kittredge, Jr., pp. 1011-1015; Hydrologic aspects of the problem of stabilizing stream flow, by R.E. Horton, pp. 1015-1027; Stabilizing streamflow as viewed by a forester, by C.L. Forsling, pp. 1028-1032; Laboratory measurement of evapo-transpiration losses, by R.L. Parshall, pp. 1033-1040; Land use patterns in erosion and flood control, by W.C. Lowdermilk, pp. 1040-1055.

Wildlife Management

Curtis, J.D. and Trippensee, R.E. A proposed study of timber and wildlife production in central New England. Jour. Forestry 35(12):1111-1115, illus. December 1937.

"Massachusetts State College, along with a considerable number of other research institutions, has undertaken a long time study of this problem. The paper describes not so much what has been accomplished in this study but rather what is proposed to be done."

Wind Erosion and Control

Harper, F.B. Wide-row plantings of annuals. Soil Conserv. 3(6):163-164, illus. December 1937.

As a protection against soil blowing in the Park River area of North Dakota crop systems called for from 2 to 4 rows of corn in potato fields, or some combination of corn and cane, Sudan grass, or tame sunflowers, between strips of land being summer fallowed, either on the contour or cross-wise to the prevailing wind.

The annual plantings serve three major purposes: (1) they deflect the wind upwards and thus shield adjacent soil from blowing; (2) they increase winter moisture retention by holding snow that otherwise would be blown away; (3) they provide wildlife food and cover.

Hibbs, Ben. The dust bowl can be saved. Sat. Evening Post 210(25):16-17, 77-78, 80-82, illus. Dec. 18, 1937.

Tells of progress in reclamation of the dust bowl area due to scientific methods of wind erosion control. The program of improved farming which is being urged for that area is predicated upon three basic points: (1) conservation of moisture; (2) the consistent use of cover crops, and (3) a cessation of the disastrous practice of planting wheat in a dry seed bed.

Mention is made of the work of C.J. Whitfield in dune control and that of H.H. Finnell in contour terracing.

In connection with "the excitement about irrigating the dust bowl from deep wells" the author contends that "while a modest amount of irrigation is a hope that cannot be dismissed, water can never touch a large enough portion of the blow lands to cure wind erosion." The problem, as he sees it, is one of getting sufficient cooperation and participation to end the dust storms. The "human angle" is important.

Judd, E.I. *Agropyron smithii*. Ecology 18(4):547. October 1937.

Tells of use of a native species, commonly known as western wheatgrass, which has a large number of conservation value traits, especially for the central and northern Great Plains.

Wind Erosion and Control (Cont'd)

Langham, W.H. Fertility losses from high plains soils due to wind erosion. Okla. Panhandle Agr. Exp. Sta. Bull. 63. 15pp., illus. Goodwell, September 1937. 100 Ok42[b]no.63 References, p.15.

It was found that the principal damage to fertility constituents has occurred in the drifting soils and in individual cases, such as very susceptible shallow soils. Tables give fertility data.

Maits, C.B., Jr. Vermont takes a cue from the dust bowl. Soil Conserv. 3(6):146-147, illus. December 1937.

New England farmers are confronted with the problem of blowing sandy wastes encroaching on their pastureland and long-run methods of control advocated are reforestation and controlled grazing.

"For temporary control many farmers in the Winooski Valley area are resorting to use of 'wisker' terraces and strongly built fences of tree limbs and brush. The 'wisker' terraces are merely bundles of brush and limbs staked around the contour of the blows to check further drifting."

Markley, M.C. Archeology as a tool for use in predicting the permanency of agriculture. Sci(n.s.)86(2239):492-493. November 26, 1937.

The author calls attention to his studies in the extreme southwestern portion of the Great Plains where there are many sites of a lost group of the agricultural Pueblo peoples. He believes that dry farming was practiced on the sandy prairie there, but that abandonment of the sandy land sites was probably caused by the blowing of the soil. He states that "at every site in the sandy lands there was evidence of wind-disturbed soil." Similar types of wind erosion are to be seen in the vicinity as the result of twentieth century mis-farming practices. Thus, according to the writer, "archeological findings are in quite close accord with the present trends of agriculture...giving some confirmation to the theory...that archeology can assist in predicting the permanency of agriculture in many regions."

Science scores again. Country Gent. 108(1):22. January 1938. Editorial concerning important contributions towards dust

Wind Erosion and Control (Cont'd)

Science scores again. (Cont'd)

bowl relief - combine milo, a short, stout, drought-defying grain sorghum; and the new forecast system by means of which a farmer can go into his fields with a soil auger at seeding time, measure the subsoil moisture and predict his yield of next June with remarkable accuracy. These, "coupled with moisture saving tillage methods developed by the Soil Conservation Service give the dust bowl a chance to beat back."

Previous articles referred to are:

Bird, John, Jr. Auxiliary crops for the wheat country. Corn and sorghum rebuilt to fit the climate and the combine. Country Gent. 101(11):13, 81-82, illus. November 1931.

Throckmorton, R.I. Yardstick for wheatgrowers. Country Gent. 106(5):19, 109, 115, illus. March 1936.

Soil conservation rebuilds blown field. West. Farm Life, Dec. 1, 1937, page 5.

Through the use of soil and moisture conservation practices, a Colorado farmer stabilized his field against blowing and produced 25 bushels of grain sorghum to the acre in 1937.

Teagarden, E.H. Control of wind erosion. Jour. Land & Pub. Utility Econ. 13(4):420-421. November 1937.

Summarizes new act passed in 1937 by the Kansas Legislature which "declared it to be the duty of the owner of real property to prevent dust blowing therefrom by planting perennial grasses, shrubs, or trees, annual or biennial crops, or by cultivation."

Tinker, E.W. What's happened to the shelterbelt? Amer. Forests 44(1):7-10, 48, illus. January 1938.

It is pointed out that tree planting on the prairies could not cease with the demise of the much publicized Shelterbelt project. The author, therefore, explains the new Prairie States Forestry Project, outlined and legalized under the Cooperative Farm Forestry Act passed by Congress early in 1937. It provides for a planting program requiring a high degree of cooperation between the Federal Government and the land owner.

Weatherwax, H.E. The first national seashore in America. Landscape preservation by the National Park Service. Landscape Architecture 28(1):29-37, illus. October 1937.

Plans for improvement of the Cape Hatters National Seashore

Wind Erosion and Control (Cont'd)

Weatherwax, H.E. (Cont'd)

on the North Carolina banks include erection of brush fences for control of blowing sand and planting of ground-cover for protection against future sand erosion.

It is indicated that formerly this section was heavily wooded with pine, cedar and oak but with the cutting of timber which began sixty years ago the process of erosion has been continuous. Next, cattle grazed the grass over practically the entire section and left the loose sand to be blown about by the wind.

BOOK AND PAMPHLET NOTES AND ABSTRACTS

American forestry association. Flood control; papers presented at the sixty-second annual meeting of the American forestry association, Cincinnati and Zanesville, Ohio, May 31-June 3, 1937. 80pp. [Washington, D.C. The American Forestry Association, 1937] 290 Am373

American geophysical union. Transactions of eighteenth annual meeting, April 28, 29, 30, 1937, Washington, D.C. Regional meeting, June 21 to 26, 1937, Denver, Colorado, Parts I and II. Washington, D.C., National Research Council of the National Academy of Science, July 1937. 330.9 Am3 Part II, Reports and papers, Section of hydrology.

Partial contents as follows: Preliminary report on a determination of comparative infiltration-rates on some major soil-types by G.W. Musgrave and G.R. Free, pp. 345-349; Rainfall and relative losses in various forms, by G.W. Musgrave and O.R. Neal, pp. 349-355; The rate of infiltration of water in irrigation practice, by M.R. Lewis, pp. 361-368; Direct accretions to ground-water from rainfall by S.T. Harding, pp. 368-371; Determination of infiltration-capacity for large drainage basins, by R.E. Horton, pp. 371-385; Maximum stream-flow with reference to flood-formulas, by C.S. Jarvis, pp. 409-419; An analysis of stream-flow data for Iowa, by F.T. Mavis and Edward Soucek pp. 419-424; Progress report on investigations of the relation between rainfall and stream-flow, by R.T. Zoch, pp. 425-427; A graphic method of routing floods through reservoirs, by R.S. Goodridge, pp. 433-439; The reliability of rainfall intensity-frequency determinations, by G.W. Thornthwaite, pp. 476-484; Ground-water in Utah, by G.H. Taylor, pp. 536-541; Floods in Texas, by Robert Lowry, pp. 541-551; Amount of ground-water recharge in the southern high plains, by C.V. Theis, pp. 564-568.

Armstrong, S.F. British grasses and their employment in agriculture... 3d ed., 350pp., illus. Cambridge, University press, 1937. 60.1 Ar6 Ed.3

In this third edition, the original purpose and scope of the book have been adhered to. Part I, termed the botanical section has been revised. Part II, the agricultural section has been rewritten and enlarged with the object of giving more fully the results of recent research on grasses and grassland.

British empire forestry conference. Fourth... proceedings, South Africa 1935. 363pp. Pretoria, South Africa, 1936. 99.9 B774 4th

The session devoted to forest influences included a discussion of soil erosion and the effect of afforestation on water conservation with special reference to South Africa, pp. 108-137.

Brown, H.C. Timber products and industries. The harvesting, conversion, and marketing of materials other than lumber, including the principal derivatives and extractives. 316pp., illus. New York, John Wiley & sons, inc., 1937. 99.75 B81T

Clements, J.B. Land use in Nyasaland. Oxford Univ. Imp. Forestry Inst. Inst. Paper 9. 14 pp. Oxford [1937] 99.9 Ox23 no.9

An outline of a series of lectures delivered at the Jeanes Training Centre, in January and February 1937, by the Conservator of Forests, Nyasaland.

Planning and control in the utilization of land involves 7 problems, according to Mr. Clements. They are (1) reservation of main catchment areas (2) hill slope protection (3) stream bank protection (4) good agricultural land management (5) care of poorer lands (6) windbreaks (7) early controlled burning.

Cox J.F. and Jackson, L.E. Crop management and soil conservation. 610pp., illus. New York, John Wiley & sons, inc., 1937. 64 C83C

"It is the primary object of this book in dealing with specific crops to present in a simple way the major operations that will enable the grower to grow and market his crops successfully. Practices that are effective in reducing the cost of production, improving crop qualities, maintaining fertility and marketing efficiently are given particular emphasis... It is hoped that this book will aid individual growers in improving their crop rotations and increasing their profits through efficient production

Cox, J.F. and Jackson, L.E. (Cont'd)

methods. It is also the desire... that the importance of balancing production in accordance with market demands and protecting soils from erosion losses and depletion by exhaustive farming will be thoroughly understood by all who read this book"---Preface.

Daugherty, R.L. Hydraulics; a text on practical fluid mechanics. 460pp., illus. New York and London, McGraw-Hill book company, inc., 1937. 290 D26 Ed.4

In this new edition the presentation has been generalized so as to apply to all fluids, thus affording a work on fluid mechanics applied to practical engineering. The text is based on the principles of dimensional analysis and the basic theorems of mechanics. The principal attention is devoted to broad fundamental principles.

Federated Malay states and the Straits Settlements.

Drainage and irrigation department. Annual report for the year 1936. 143pp., illus. Kuala Lumpur, 1937. 54.9 F31 1936

Conservancy of rivers may be broadly divided under the following heads: (1) Prevention of silt pollution by river training and silt control works: (2) Restoration of silted channels by dredging in the lower reaches: (3) Flood protection by earthen embankments: (4) Snagging.

Harlow, W.M. and Harrar, E.S. Textbook of dendrology covering the important forest trees of the United States and Canada. 527pp., illus. New York and London, McGraw-Hill book company, inc., 1937. 454 H22T

This text is said to be the only one which covers thoroughly the important species (250 in number) of interest to foresters and others, without being too comprehensive and encyclopedic for quick reference to essentials or being purely local in nature.

Special emphasis is given to identification, tree habits, pertinent silvical data and tree ranges.

Hathaway, G.A. Special report on hydrological studies for the Possum Kingdom project, Brazos river basin... 36pp., illus., processed. [Mineral Wells, Texas, U.S. Engineer's Office? June 9, 1937] 152,26 Sp3

"References," p.36.

"The scope of this report is confined in so far as possible to a discussion of the hydraulic characteristics of the Brazos river basin above the Possum Kingdom dam site; the location, intensity and extent of precipitation and the meteorological conditions attending great storms of record in the general vicinity of the project; the probability of these

Hathaway, G.A. (Cont'd)

storms occurring over the basin above the dam site; and the required spillway capacity of the Possum Kingdom dam in the event of a superstorm."

Hawley, R.C. Forest protection. 262pp. New York, John Wiley & sons, inc., 1937. 99.5 H31

References at end of each chapter.

Chapter headings are: Man as a source of injury to the forest; Protection against atmospheric agencies; Protection against injurious plants; Protection against insects; Protection against domestic animals, grazing; Protection against wild life; Forest fires; Causes of forest fires; Presuppression activities in fire control; Fire suppression; Fire control costs and standards.

Hawley, R.C. The practice of silviculture with particular reference to its application in the United States of America. 4th ed., 252pp., illus. New York, John Wiley & sons, inc., 1937. 99.45 H31 Ed.4.

References at end of each chapter.

Hool, G.A. Reinforced concrete construction. Volume I. Fundamental principles. 4th ed., rev. by H.E. Pulver. 454pp., illus. New York and London, McGraw-Hill book company, inc., 1937. 299 H76 Ed.4, v.1.

"This volume forms the first part of a complete text in reinforced concrete construction."

Illinois University. A report on certain physical, economic, and social aspects of the valley of the Kaskaskia river in the state of Illinois. 2 parts mimeogr. Urbana, June 1, 1937. 280.023 I162

Partial contents: Surficial and subsurface geology and structure, by G.E. Ekblaw, pp.13-20; Climatology by J.L. Page, pp.21-24; Water resources, by W.D. Gerber, pp.36-39; Possible reservoir sites, by G.W. Pickels, pp.45-57; Land use, by R.S. Smith, pp.93-101; Land reclamation and flood control, by G.W. Pickels, pp.102-111; Soil erosion in the Kaskaskia river basin by W.D. Clark, pp.112-119; and Forestry possibilities, by J.E. Davis, pp.120-125.

Johnson, G.M. The wasted land. 110pp. Chapel Hill, University of North Carolina press, 1937. 280.002 J63

"This book is essentially a commentary on 'Southern Regions of the United States,' written by Howard W. Odum."

The main theme is "waste is the enemy of the South, waste of land, waste of people, waste of time, waste of energy."

Johnson, G.W. (Cont'd)

The author contends that "it is at least conceivable that nothing can save the western plains of the 'Dust Bowl' now that the buffalo grass has been plowed under" but "the South faces no threat of this sort." Its problem of waste rather than inevitable destruction" can be halted by prompt and intelligent employment of resources available to the Southern State."

Joint committee on roadside development of the American association of state highway officials and the Highway research board. Report[of meetings, St. Louis, Missouri, July 6-11, 1936 and Washington, D.C., November 17-20, 1936] 86pp., mimeogr. Washington, D.C., National research council, Highway research board, June 1937. 288 J66

Partial contents: Erosion problems, by F.A. Aust; Highway erosion control in the Tennessee valley, by J.E. Snyder and C.C. Davis; Erosion, by O.L. Kipp.

Lamb, W.H. Virginia trees. 112pp., illus. Manassas, Virginia, Manassas Journal Press, July 1937. 453.39 L16
v.1 - The Conifers.

"The present publication...is presented to the lay reader as an accurate, scientific summary of the outstanding facts concerning the distinguishing characteristics and growth habits of our native and naturalized forest trees...Publication[of the volume on conifers] is made available at this time in advance of the completed work in the belief that the additional data included on Virginia forest types and the included complete checklist of native and important naturalized trees will be especially appreciated by the general public."--Author's preface.

Mavis, F.T., Liu, T., and Soucek, Edward. The transportation of detritus by flowing water - II. Iowa Univ. Studies Engin. Bull. 11. 28pp., illus. Iowa City, Sept. 1, 1937. 290.9 Ie93 no. 11
New series no. 341.

Middletton, P.E. Preliminary report on drainage basin studies in Indiana. v.p., typed. [Indianapolis? 1937] 290 I583
State planning board of Indiana cooperating with Works progress administration. Federal project no. 3.

Findings and suggested plan for development of the basin of the Wabash river above Logansport.

Moon, Franklin and Brown, H.C. Elements of forestry. 3d ed. rev., 397pp., illus. New York, John Wiley & sons, inc., 1937. 99 M772 Ed. 3

Moon, Franklin and Brown, N.C. (Cont'd)

"Selected bibliography and references for more extended reading," pp. 382-385.

The book is divided into two main parts, Part I being, History, Economics and Technique and Part II, Opportunities for Service With Organizations Practicing and Promoting Forestry.

A partial list of chapter headings is as follows: Forest resources, ownership, areas and volume of standing timber; The tree-functions and characteristics; Silvics - relation to environment; Tree planting or reforestation; Forest protection against injurious agencies (including grazing and sand dunes); Principal forest products and their utilization; Federal organizations promoting forestry (including Soil Conservation Service).

Pickols, G.W. Magnitude and frequency of floods on Illinois streams. Ill. Eng. Exp. Sta. Bull. 296. 62pp., illus. Urbana, Aug. 24, 1937. 290.9 Il62B no. 296

"This bulletin contains a presentation and an analysis of flood-flow data on 24 Illinois streams. Its purpose is to provide as much information as possible as to the frequency with which flood flows of certain magnitudes may be expected."

Flood-flow data have been taken from records of the U.S. Geological Survey, and are analyzed (1) by the theoretical probability curve method and (2) by the partial duration curve method.

Robbins, W.W. and Ranaley, Frances. Plants useful to man. 2d ed., 422pp., illus. Philadelphia, P. Blackiston's son & co., inc. [c1937] 452.8 R53 Ed. 2.

"The name of this volume suggests its purpose... It includes a discussion of common crop plants of orchard, garden and field, grown within the borders of the United States; an account is also given of plants in tropical and sub-tropical countries which yield such materials of commerce as tea, coffee, spices, drugs, fibers and tropical fruits."

Smith, H.P. Farm machinery and equipment. 2d. ed., 460pp., illus. New York and London, McGraw-Hill book company, inc., 1937. 58 Sm5 Ed. 2

Soil and water conservation machinery; terracing machinery, Chapter XXXVI, pp. 438-448.

Snodcor, G.W. Statistical methods applied to experiments in agriculture and biology. 341pp. Ames, Iowa, Collegiate press, inc., 1937. 251 Sn2

Stebbing, E.P. The threat of the Sahara. 35pp. n.p. [1937] 56.27 St3

Stebbing, E.P. (Cont'd)

Extra supplement, Journal of the Royal African Society, May 25, 1937.

It is the object of the paper to trace the various stages which are passed through in the production of desert conditions and desiccation, by setting forth brief analyses of reports of investigators.

The opinion is expressed that desert conditions have been caused by man's own acts and that the same conditions which enabled the Sahara to cover up so much valuable land in the past are continuing in South Africa today.

Sykes, Godfrey. Delta, estuary, and lower portion of the channel of the Colorado river 1933 to 1935. Carnegie Inst. Wash. Pub. 480. 70pp., illus. Washington, D.C., 1937. 400 Sy4D

Gives information on deposition in the Delta, river discharge, delivery of detrital matter to the Delta, river control as affecting the further movement of bed-silt, mechanical analysis of bed-silt and desiccation of the Delta area.

Toumey, J.W. Foundations of silviculture upon an ecological basis. 2d. ed., rev. by C.F. Kerstian, 456pp., illus. New York, John Wiley & sons, inc., 1937. 99.45 T64F Ed.2 Bibliography, pp. 415-446.

Part I, Environment of the forest; Part II, Influence of forest vegetation on its physical environment.

A partial list of chapter headings is as follows: Soil conditions; Soil moisture and its influence on forest vegetation; Reaction of forest vegetation on its physical environment.

Webster, P.J. Land use programs of public agencies in California; organization, personnel, history and objectives. v.p. n.p., June 1937. 282 W39

Prepared by State land use planning specialist for California and staff, California unit, Land use planning section, Land utilization division, Resettlement administration, United States department of agriculture.

"There appears to be rather general agreement on the part of public agencies interested in land use planning that there is a need for greater coordination to prevent overlapping of effort and insure a well rounded attack on these land problems. The report has been prepared in the hope that it will help meet this need by directing attention to the organization, objectives and programs of agencies now working in this field."

Wooldridge, S.W. and Morgan, R.S. The physical basis of geography. An outline of geomorphology. 445pp., illus. New York, Longmans, Green and co. [1937] 331 W88
Bibliographical notes, pp. 429-435.
Partial contents: Sub-aerial denudation; The form of water-eroded valleys; The cycle of erosion; The development of drainage systems and adjustment to structure; Denudation chronology; Underground water; Erosion under arid conditions; and Marine erosion and shore-lines.

STATE PUBLICATIONS

Arizona

McGeorge, W.T. Studies on soil structure: some physical characteristics of puddled soils. Ariz. Agr. Exp. Sta. Tech. Bull. 67. 177pp., illus. Tucson, June 15, 1937. 100 Ar4[t]
Bibliography, p. 177.

Colorado

Leonard, C.D. How to run contour and grade lines. Colo. Agr. Col. Ext. Circ. 123-A. 8pp., illus. Fort Collins, August 1937. 275.29 C71C no. 123-A.

Leonard, C.D. Save your soil by terracing. Colo. Agr. Col. Ext. Circ. 122-A. 8pp., illus. Fort Collins, August 1937. 275.29 C71C no. 122-A

McCampbell, S.C. Improve your range by rodent control. Colo. Agr. Col. Ext. Circ. 121-A. 8pp., illus. Fort Collins, May 1937. 275.29 C71C no. 121-A.

Stewart, T.G. Practice proper grazing. Colo. Agr. Col. Ext. Circ. 120-A. 8pp., illus. Fort Collins, May 1937. 275.29 C71C no. 120-A.

Stewart, T.G. Rotate your crops on dry land. Colo. Agro. Col. Ext. Circ. 119-A. 8pp., illus. Fort Collins, April 1937. 275.29 C71C no. 119-A.

Tables give a suggested 5-year rotation system for eastern Colorado; a simple 4-year rotation adapted to some non-irrigated foothills regions, mountain farms and western Colorado; and a "dust bowl" farming plan.

Stewart, T.G. Rotate your crops on irrigated land. Col. Agr. Col. Ext. Circ. 118-A. 8pp., illus. Fort Collins, April 1937. 275.29 C71C no. 118-A.

Colorado (Cont'd)

Stewart, T.G. (Cont'd)

Compares profit and loss on certain crops grown continuously with those grown in rotation.

Tables suggest a simple three-year rotation for a 150-acre irrigated farm and a five-year rotation for the livestock feeder - 145 acres of irrigated land in Colorado.

Illinois

Davis, J.E. Forest planting on Illinois farms. Ill. Agr. Exp. Sta. Circ. 477. 38pp., illus. Urbana, September 1937. 100 IL6S[c]no. 477

"Forest planting is the solution to the problem of idle or eroded land on many Illinois farms."

Trees recommended for Illinois; costs and returns.

Illinois agricultural experiments station. A year's progress in solving farm problems of Illinois. Annual report... forty-ninth..for year ended June 30, 1936. 333pp., illus. Urbana, 1937. 100 IL6S[a]

Reviews accomplishments in soil conservation and erosion prevention. It is pointed out that even before 1876 the problem of soil mining and destruction had not been ignored. The attack took definite form that year with laying out of the Morrow plots now recognized as America's oldest soil experiment plots.

The section entitled "Soils and crops", pp. 13-65 indicates various investigations relating to soil conservation now in progress at the Illinois station.

Sauer, E.L. and Case, H.C.M. Summary of farm business survey on 123 farms located in east and west Marion townships, Williamson county, Illinois, 1936. Ill. Agr. Exp. Sta. [Pub.] AE-631. 20pp., illus., mimeogr. Urbana [1937?] 275.29 IL62P no. AE-631

Sauer, E.L. and Case, H.C.M. Summary of Soil Conservation Service farm business survey on 164 farms in Arrowsmith and Dawson townships, McLean county, Illinois, 1936. Ill. Agr. Exp. Sta. [Pub. Unnumb.] 20pp., illus., mimeogr. Urbana, [1937] 275.29 IL62P

Sauer, E.L. and Case, H.C.M. Summary of Soil Conservation Service farm business survey on 65 farms in Buckeye and Dakota townships, Stephenson county, Illinois, 1936. Ill. Agr. Exp. Sta. [Pub.] AE-634. Urbana [1937?] 275.29 IL62P no. AE-634

Illinois (Cont'd)

Sauer, E.L. and Case, H.C.M. (Cont'd)

The above listed group of publications were issued in cooperation with the Soil Conservation Service and the Bureau of Agricultural Economics, United States Department of Agriculture.

The following statement introduces each summary:

"This study was made in an area where soil conservation work is active through the Operations Division of the Soil Conservation Service with a considerable number of the farms already included in the various phases of the Soil Conservation Service program. The study, however, was undertaken before any pronounced changes had been made in the use of land or before new practices had been adopted resulting directly from the work of the Soil Conservation Service in order to make an analysis of present income, land use and other factors. This information will be valuable as a basis of studying the effects of the Soil Conservation program as the farms in the area adopt new practices with some of them making greater progress than others."

Sauer, E.L. and Case, H.C.M. Summary of Soil Conservation Service farm business survey on 58 farms in Perryton township, Mercer county, Illinois, 1936. Ill. Agr. Exp. Sta. [Pub.] AE-632. 20pp., illus., mimeogr. Urbana, [1937] 275.29 I162P no. AE-632

Sauer, E.L. and Case, H.C.M. Summary of Soil Conservation Service farm business survey on 82 farms in Pin Oak township, Madison county, Illinois, 1936. Ill. Agr. Exp. Sta. [Pub. Unnumb.] 20pp., illus., mimeogr. Urbana [1937] 275.29 I162P

Kentucky

Roberts, George, Welch, E.G. and Kelley, J.B. Soil erosion and its control. Ky. Agr. Col. Ext. Circ. 304. 55pp., illus. Lexington, July 1937. 275.29 K415 no. 304

Gives statistics of erosion in Kentucky and methods of control including cultural practices, terracing, construction and maintenance and methods for control of gullying.

Mississippi

Jones, L.I. and Ferris, E.P. Winter legumes. Miss. Agr. Col. Ext. Bull. 85. 15pp., illus. State College, August 1937. 275.29 J68 No. 85.

Mississippi (Cont'd)

Jones, L.I. and Ferris, E.B. (Cont'd)

Gives details of planting, fertilizing; and importance of winter legumes in erosion prevention in the cotton belt.

New York

Collison, R.C. Potash and phosphorus in relation to organic matter in New York orchards. N.Y. Agr. Exp. Sta. Bull. 679. 18pp., tables. Geneva, September 1937. 100 N48[b]no.679.

Table I indicates yield responses in bushels per tree of orchards on various soil to N-P-K combinations.

Table II indicates amount of nitrogen, phosphorus and potassium in crops and in soil leaching during 16 years of varied cropping, pounds per acre.

Wilson, B.D. and Staker, E.V. Loss of plant nutrients from peat soil. N.Y. Cornell Agr. Exp. Sta. Memoir 206 16pp., illus. Ithaca, July 1937. 100 N48C[m]no.206

"References cited," p.13.

During a five year investigation "cropping was found to conserve the sulfur and the magnesium of the soil, as well as the calcium. In this and in many other respects, the removal of plant nutrients from peat soil in the drainage water was found to be similar to that which has been reported for mineral soils."

North Carolina

Blair, E.C. Lespedeza in North Carolina. N.C. Agr. Col. Ext. Circ. 195 (rev.) 8pp., illus. Raleigh, February 1937. 275.29 N811 no.195 rev.

North Dakota

Thomas, E.J., Roherty, J.N. and McColley, H.F. Construction of small dams for farm and community use. N. Dak. Agr. Col. Ext. Circ. 154. 20pp., illus. Fargo, March 1937. 275.29 N812 no.154

Prepared by Surface waters section of Water Resources committee, North Dakota state planning board.

"The storing of run-off waters behind small dams is a method of water conservation possible on a large number of farms... Such reserves of otherwise wasted water will provide water for livestock, make possible irrigation of small areas, prevent damage from rushing flood waters, and provide recreation during both summer and winter."

Pennsylvania

Dickey, J.B.R. and Bamer, F.G. Reducing soil erosion losses on Pennsylvania farms. Penn.State Col.Ext.Circ.191. 16pp., illus. State College, August 1937. 275.29 P38C no. 191

Vermont

Vermont agricultural experiment station. Fiftieth annual report 1936-1937, by J.L.Hills. Vt.Agr.Exp.Sta.Bull.425. 34pp. Burlington, July 1937. 100 V59[a] 50th, 1936-37. Department of Agronomy report on flood and river bank erosion studies: pp.20-21.

"Flood waters in March 1936 left extensive deposits of sand and silt on meadows bordering several large Vermont streams...Experimental plots seeded with different grasses and clovers, with and without fertilizers, have been established on several deposit areas to determine the best means of reclaiming them and of preventing further blowing and erosion... Early sown soybeans, oats and sweet clover made satisfactory growth and tended to prevent wind erosion. Reed canary grass, if well established, withstands being covered with a heavy coating of silt and seems well adapted to use on land which is repeatedly flooded...it is well adapted to holding eroding river banks and preventing gullies from enlarging. Bromegrass may prove valuable where heavy deposits have been made since it grows well on dry areas and can recover from the effects of a rather heavy coating of silt..."

Virginia

Ellett, W.B. and Hill, H.H. The effects of certain lime materials on the leachings from Frederick silt loam soil. Va.Agr.Exp.Sta.Tech.Bull.61. 19pp., tables. Blacksburg, September 1937. 100 V81s[t]no.61. "Literature cited," p.19.

West Virginia

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FINIS

